

# User Guide

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#### **Product notice**

This guide describes features that are common to most models. Some features may not be available on your product. To access the latest user guide, go to <u>http://www.hp.com/support</u>, and follow the instructions to find your product. Then select **User Guides**.

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#### **About This Guide**

This guide provides information on monitor features, setting up the monitor, and technical specifications.

- A WARNING! Indicates a hazardous situation that, if not avoided, **could** result in death or serious injury.
- **CAUTION:** Indicates a hazardous situation that, if not avoided, **could** result in minor or moderate injury.
- **IMPORTANT:** Indicates information considered important but not hazard-related (for example, messages related to property damage). A notice alerts the user that failure to follow a procedure exactly as described could result in loss of data or in damage to hardware or software. Also contains essential information to explain a concept or to complete a task.
- **NOTE:** Contains additional information to emphasize or supplement important points of the main text.
- $\frac{1}{2}$  TIP: Provides helpful hints for completing a task.



HIGH-DEFINITION MULTIMEDIA INTERFACE

This product incorporates HDMI technology.

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## **1** Getting started

### Important safety information

An AC power adapter and cord is included with the monitor. If another cord is used, use only a power source and connection appropriate for this monitor. For information on the correct power cord set to use with the monitor, refer to the *Product Notices* provided in your documentation kit.

**WARNING!** To reduce the risk of electric shock or damage to the equipment:

- Plug the power cord into an AC outlet that is easily accessible at all times.
- Disconnect power from the computer by unplugging the power cord from the AC outlet.

• If provided with a 3-pin attachment plug on the power cord, plug the cord into a grounded (earthed) 3-pin outlet. Do not disable the power cord grounding pin, for example, by attaching a 2-pin adapter. The grounding pin is an important safety feature.

For your safety, do not place anything on power cords or cables. Arrange them so that no one may accidentally step on or trip over them. Do not pull on a cord or cable. When unplugging from the AC outlet, grasp the cord by the plug.

To reduce the risk of serious injury, read the *Safety & Comfort Guide*. It describes proper workstation setup, and proper posture, health, and work habits for computer users. The *Safety & Comfort Guide* also provides important electrical and mechanical safety information. The *Safety & Comfort Guide* is available on the Web at <a href="http://www.hp.com/ergo">http://www.hp.com/ergo</a>.

**IMPORTANT:** For the protection of the monitor, as well as the computer, connect all power cords for the computer and its peripheral devices (such as a monitor, printer, scanner) to some form of surge protection device such as a power strip or uninterruptible power supply (UPS). Not all power strips provide surge protection; the power strips must be specifically labeled as having this capability. Use a power strip whose manufacturer offers a damage replacement policy so you can replace the equipment if surge protection fails.

Use the appropriate and correctly sized furniture designed to properly support your HP LCD monitor.

A WARNING! LCD monitors that are inappropriately situated on dressers, bookcases, shelves, desks, speakers, chests, or carts may fall over and cause personal injury.

Care should be taken to route all cords and cables connected to the LCD monitor so that they cannot be pulled, grabbed, or tripped over.

Be sure that the total ampere rating of the products connected to the AC outlet does not exceed the current rating of the outlet, and that the total ampere rating of the products connected to the cord does not exceed the rating of the cord. Look on the power label to determine the ampere rating (AMPS or A) for each device.

Install the monitor near an AC outlet that you can easily reach. Disconnect the monitor by grasping the plug firmly and pulling it from the AC outlet. Never disconnect the monitor by pulling the cord.

Do not drop the monitor or place it on an unstable surface.

NOTE: This product is suitable for entertainment purposes. Consider placing the monitor in a controlled luminous environment to avoid interference from surrounding light and bright surfaces that may cause disturbing reflections from the screen.

## **Product features and components**

#### **Features**

This product is an AMD<sup>®</sup> FreeSync-qualified monitor, which allows you to enjoy PC gaming with smooth, responsive, tear-free performance whenever a picture changes on the screen. The external source connected to your monitor must have the FreeSync driver installed.

AMD FreeSync technology is designed to eliminate stuttering and tearing in games and videos by locking a monitor's refresh rate to the frame rate of the graphics card. Check with the manufacturer of your component or system for specific capabilities.

IMPORTANT: AMD Radeon Graphics and/or AMD A-Series APU-compliant monitors with DisplayPort/HDMI Adaptive-Sync required. AMD 15.11 Crimson driver (or newer) required to support FreeSync over HDMI.

**NOTE:** Adaptive refresh rates vary by monitor. More information is available at <u>www.amd.com/freesync</u>.

To enable FreeSync on the monitor, press the Menu button on the monitor to open the on-screen display menu. Select **Color Control**, select **Viewing Modes**, and then select **Gaming-FreeSync**.

This guide describes features of the following monitors:

- 54.61 cm (21.5-inch) diagonal viewable screen area with 1920 × 1080 resolution, plus full-screen support for lower resolutions
- 58.42 cm (23-inch) diagonal viewable screen area with 1920 × 1080 resolution, plus full-screen support for lower resolutions
- 60.47 cm (23.8-inch) diagonal viewable screen area with 1920 × 1080 resolution, plus full-screen support for lower resolutions
- 63.33 cm (25-inch) diagonal viewable screen area with 1920 × 1080 resolution, plus full-screen support for lower resolutions
- 68.6 cm (27-inch) diagonal viewable screen area with 1920 × 1080 resolution, plus full-screen support for lower resolutions

The monitor features include the following:

- IPS panel with LED backlight
- Anti-glare panel on 54.61 cm (21.5-inch), 58.42 cm (23-inch), 60.47 cm (23.8-inch), and 68.6 cm (27-inch) models
- Low-haze panel on 63.33 cm (25-inch) model
- Wide viewing angle to allow viewing from a sitting or standing position, or when moving from side to side
- Tilt capability
- HDMI (High-Definition Multimedia Interface) and VGA video inputs
- AMD FreeSync-qualified, providing PC gaming enjoyment with smooth, responsive, tear-free performance whenever a picture changes on the screen
- Plug and Play capability, if supported by your operating system
- Security cable slot provision on rear of monitor for optional security cable
- On-screen display (OSD) adjustments in several languages for easy setup and screen optimization

- HDCP (High-Bandwidth Digital Content Protection) used on all digital inputs
- Energy saver feature to meet requirements for reduced power consumption

NOTE: For safety and regulatory information, refer to the *Product Notices* provided in your documentation kit. To access the latest user guides or manuals for your product, go to <u>http://www.hp.com/support</u> and follow the instructions to find your product. Then select **User Guides**.

#### **Rear components**

Rear components vary by model.

#### 54.61 cm/21.5-inch model, 58.42 cm/23-inch model, and 60.47 cm/23.8-inch model



Comp	oonent	Function
(1)	HDMI port	Connects an HDMI cable to the source device.
(2)	VGA port	Connects a VGA cable to the source device.
(3)	Power connector	Connects an AC adapter to the monitor.
(4)	Security cable slot	Connects a security cable to the monitor.

#### 63.33 cm/25-inch model and 68.6 cm/27-inch model



Comp	onent	Function
(1)	HDMI 1 port	Connects an HDMI cable to the source device.
(2)	HDMI 2 port	Connects an HDMI cable to the source device.
(3)	VGA port	Connects a VGA cable to the source device.
(4)	Power connector	Connects an AC adapter to the monitor.
(5)	Security cable slot	Connects a security cable to the monitor.

#### **Front components**

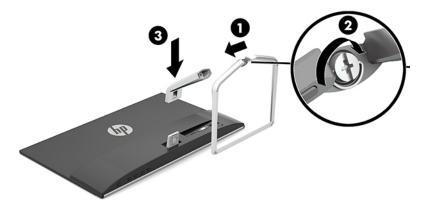
Comp	ponent	Function
(1)	Menu/OK	Menu: If the OSD menu is closed, opens the OSD main menu.
		OK: If the OSD menu is open, selects an item in the OSD menu.
(2)	Information/Auto-Adjustment/Minus Function button 3—assignable	Information: If the OSD menu is closed and HDMI is the primary video source, opens the Information menu.
		Auto-Adjustment: If the OSD menu is closed and VGA is the primary video source, activates the auto-adjustment feature to optimize the screen image.
		Minus: If the OSD menu is open, navigates backward through the OSD menu and decreases adjustment levels.
(3)	Input/Plus Function button 2—assignable	Input: If the OSD menu is closed, switches to the next video input port (VGA or HDMI).
	י שהכנוסה סערנסה במכסוקוומטנפ	Plus: If the OSD menu is open, navigates forward through the OSD menu and increases adjustment levels.
(4)	Viewing Modes/Exit	Viewing Modes: If the OSD menu is closed, opens the Viewing Modes menu to
	Function button 1—assignable	choose different screen viewing settings.
		Exit: If the OSD menu is open, saves changes and exits the OSD menu.

NOTE: You can reconfigure the Function buttons in the OSD menu to quickly select the most commonly used operations. Press the Menu button to open the OSD, and then select **Menu Control**. Select **Assign Buttons**, and then select one of the available options for the button you want to assign.

## Setting up the monitor

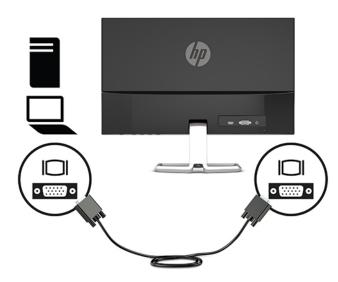
#### Installing the monitor stand

- **IMPORTANT:** To prevent damage to the monitor, do not touch the surface of the LCD panel. Pressure on the panel may cause nonuniformity of color or disorientation of the liquid crystals. If this occurs, the screen will not recover to its normal condition.
  - 1. Position the monitor facedown on a flat surface covered by a soft clean cloth.
  - Slide the stand's base (1) into the bottom of the stand's arm, and then tighten the screw (2) on the underside of the base. Then attach the top of the stand's arm (3) to the connector on the back of the monitor head. The stand's arm will click into place.

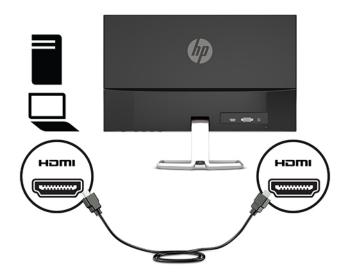


#### **Connecting the cables**

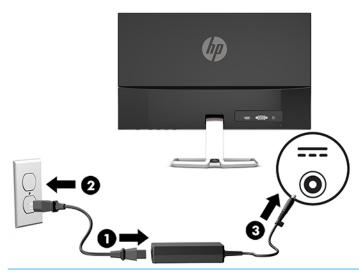
- **1.** Place the monitor in a convenient, well-ventilated location near the computer.
- 2. Connect a video cable.
- NOTE: The monitor automatically determines which inputs have valid video signals. The inputs can be selected by pressing the Menu button to access the on-screen display (OSD) menu, and then selecting **Input Control**.
  - Connect one end of a VGA cable to the VGA port on the rear of the monitor and the other end to the VGA port on the source device.



• Connect one end of an HDMI cable to the HDMI port on the rear of the monitor and the other end to the HDMI port on the source device.



3. Connect one end of the power cord to the AC adapter (1) and the other end to a grounded AC outlet (2), and then connect the round end of the AC adapter to the power connector on the monitor (3).



**WARNING!** To reduce the risk of electric shock or damage to the equipment:

Do not disable the power cord grounding plug. The grounding plug is an important safety feature.

Plug the power cord into a grounded (earthed) AC outlet that is easily accessible at all times.

Disconnect power from the equipment by unplugging the power cord from the AC outlet.

For your safety, do not place anything on power cords or cables. Arrange them so that no one may accidentally step on or trip over them. Do not pull on a cord or cable. When unplugging the power cord from the AC outlet, grasp the cord by the plug.

#### Adjusting the monitor

Tilt the monitor head forward or backward to set it to a comfortable eye level.



#### Turning on the monitor

- 1. Press the power button on the computer to turn it on.
- 2. Press the power button on the bottom of the monitor to turn it on.



IMPORTANT: Burn-in image damage may occur on monitors that display the same static image on the screen for 12 or more consecutive hours of nonuse. To avoid burn-in image damage on the monitor screen, you should always activate a screen saver application or turn off the monitor when it is not in use for a prolonged period of time. Image retention is a condition that may occur on all LCD screens. A burned-in image on the monitor is not covered under the HP warranty.

NOTE: If pressing the power button has no effect, the Power Button Lockout feature may be enabled. To disable this feature, press and hold the monitor power button for 10 seconds.

NOTE: You can disable the power light in the OSD menu. Press the Menu button to open the OSD, and then select **Power Control**. Select **Power LED**, and then select **Off**.

When the monitor is first turned on, a Monitor Status message is displayed for five seconds. The message shows which input is the current active signal, the status of the auto-switch source setting (On or Off; default setting is On), the current preset screen resolution, and the recommended preset screen resolution.

The monitor automatically scans the signal inputs for an active input and uses that input for the screen.

#### HP watermark and image retention policy

The IPS monitor models are designed with IPS (In-Plane Switching) display technology which provides ultrawide viewing angles and advanced image quality. IPS monitors are suitable for a wide variety of advanced image quality applications. This panel technology, however, is not suitable for applications that exhibit static, stationary or fixed images for long periods of time without the use of screen savers. These types of applications may include camera surveillance, video games, marketing logos, and templates that are displayed on the screen for a prolonged period of time. Static images may cause image retention damage that could look like stains or watermarks on the monitor's screen.

A burned-in image on the monitor is not covered under the HP warranty. To avoid image retention damage, either turn off the monitor when it is not in use or use the power management setting, if supported on your system, to turn off the monitor when the system is idle.

#### Installing a security cable

You can secure the monitor to a fixed object with an optional security cable available from HP.



## **2** Using the monitor

#### **Software and utilities**

You can download and install the following files to your computer from <a href="http://www.hp.com/support">http://www.hp.com/support</a>.

- INF (Information) file
- ICM (Image Color Matching) files (one for each calibrated color space)

#### **The Information file**

The INF file defines monitor resources used by Windows<sup>®</sup> operating systems to ensure monitor compatibility with the computer's graphics adapter.

This monitor is Windows Plug and Play–compatible and the monitor will work correctly without installing the INF file. Monitor Plug and Play compatibility requires that the computer's graphic card is VESA DDC2- compliant and that the monitor connects directly to the graphics card. Plug and Play does not work through separate BNC-type connectors or through distribution buffers/boxes.

#### The Image Color Matching file

The ICM files are data files that are used in conjunction with graphics programs to provide consistent color matching from monitor screen to printer, or from scanner to monitor screen. This file is activated from within graphics programs that support this feature.

NOTE: The ICM color profile is written in accordance with the International Color Consortium (ICC) Profile Format specification.

### Using the on-screen display (OSD) menu

Use the on-screen display (OSD) menu to adjust the monitor screen image based on your preferences. You can access and make adjustments in the OSD menu using the buttons on the bottom side of the monitor's front bezel.

To access the OSD menu and make adjustments, do the following:

- 1. If the monitor is not already on, press the power button to turn on the monitor.
- 2. To access the OSD menu, press the Menu button to open the OSD.
- 3. Use the three function buttons to navigate, select, and adjust the menu choices. The on-screen button labels vary depending on which menu or submenu is active.

Main menu	Description
Brightness	Adjusts the brightness level of the screen.
Contrast	Adjusts the contrast level of the screen.
Color Control	Selects and adjusts the screen color.
Input Control	Selects the video input signal.
Image Control	Adjusts the screen image.
Power Control	Adjusts the power settings.
Menu Control	Adjusts the on-screen display (OSD) and function button controls.
Management	Adjusts the DDC/CI settings and returns all OSD menu settings to the factory default settings.
Language	Selects the language in which the OSD menu is displayed. The factory default is English.
Information	Selects and displays important information about the monitor.
Exit	Exits the OSD menu screen.

The following table lists the menu selections in the OSD main menu.

NOTE: To view an OSD menu simulator, visit the HP Customer Self Repair Services Media Library at <a href="http://www.hp.com/go/sml">http://www.hp.com/go/sml</a>.

#### Using Auto-Sleep Mode

The monitor supports an OSD (on-screen display) menu option called Auto-Sleep Mode that allows you to enable or disable a reduced power state for the monitor. When Auto-Sleep Mode is enabled (enabled by default), the monitor will enter a reduced power state when the host computer signals low power mode (absence of either horizontal or vertical sync signal).

Upon entering this reduced power state (sleep mode), the monitor screen is blanked, the backlight is turned off, and the power LED indicator turns amber. The monitor draws 0.3 W of power when in this reduced power state. The monitor will wake from sleep mode when the host device sends an active signal to the monitor (for example, if you activate the mouse or keyboard).

You can disable Auto-Sleep Mode in the OSD. Press the Menu button to open the OSD, and then select **Power Control**, select **Auto-Sleep Mode**, and then select **Off**.

## **Selecting the Low Blue Light mode**

Decreasing the blue light emitted by the monitor reduces the blue light exposure to your eyes. HP monitors provide settings to reduce the blue light output and create a more relaxing and less stimulating image while you view content on the screen. To adjust your monitor to a comfortable viewing light, follow the steps below.

- 1. Press the Viewing Modes button to open the Viewing Modes menu, or press the Menu button, select **Color Control**, and then select **Viewing Modes**.
- 2. Select your desired setting:
  - Low Blue Light (TUV certified): Reduces blue light for improved eye comfort
  - Night: Adjusts the monitor to the lowest blue light output
  - Reading: Optimizes both blue light and brightness for indoor viewing
- **3.** Select **Save and Return** to save your setting and close the **Viewing Modes** menu. Select **Cancel** if you don't want to save the setting.
- 4. Select **Exit** from the OSD main menu.

✓ WARNING! To reduce the risk of serious injury, read the Safety & Comfort Guide. It describes proper workstation setup, and proper posture, health, and work habits for computer users. The Safety & Comfort Guide also provides important electrical and mechanical safety information. The Safety & Comfort Guide is available on the Web at <a href="http://www.hp.com/ergo">http://www.hp.com/ergo</a>.

## 3 Support and troubleshooting

### Solving common problems

The following table lists possible problems, the possible cause of each problem, and the recommended solutions.

Problem	Possible cause	Solution
Screen is blank or video is flashing.	Power cord is disconnected.	Connect the monitor power cord.
	Monitor is off.	Press the monitor power button.
		<b>NOTE:</b> If pressing the power button has no effect, press and hold the power button for 10 seconds to disable the Power Button Lockout feature.
	Video cable is not connected.	Connect a video cable between the source device and monitor. Be sure the computer power is off when connecting the video cable. See <u>Connecting the cables on page 7</u> for more information.
	System is in sleep mode.	Press any key on the keyboard or move the mouse to exit sleep mode.
	Video card is incompatible.	Replace the video card or connect the video cable to one of the computer's onboard video sources.
Image appears too dark.	Brightness setting is too low.	Open the OSD menu and select <b>Brightness</b> to adjust the brightness scale as needed.
Input Signal Not Found is displayed on the screen.	Monitor video cable is disconnected.	Connect the appropriate video cable between the computer and monitor. Be sure that the computer power is off while you connect the video cable.
Input Signal Out of Range is displayed on screen.	Video resolution and/or refresh rate are set higher than what the monitor supports.	Change the settings to a supported setting. See <u>Preset display</u> <u>resolutions on page 24</u> for more information.
The monitor is off but it did not seem to enter a low- power sleep mode.	The monitor's power-saving mode is disabled.	Open the OSD menu and select <b>Power Control</b> , select <b>Auto-</b> Sleep Mode, and then set auto-sleep to <b>On</b> .
<b>OSD Lockout</b> is displayed.	The monitor's OSD Lockout function is enabled.	Press and hold the <u>Menu</u> button for 10 seconds to disable the OSD Lockout function.
Power Button Lockout is displayed.	The monitor's Power Button Lockout function is enabled.	Press and hold the power button for 10 seconds to disable the Power Button Lockout function.

### **Button lockouts**

Holding down the power button or Menu button for ten seconds will lock out the functionality of that button. You can restore the functionality by holding the button down again for ten seconds. This functionality is only available when the monitor is on, displaying an active signal, and the OSD is not active.

## Using the auto-adjustment function (analog input)

The auto-adjustment feature automatically engages and attempts to optimize your screen under the following conditions:

- Monitor setup
- Factory reset of the computer
- Changing monitor resolution

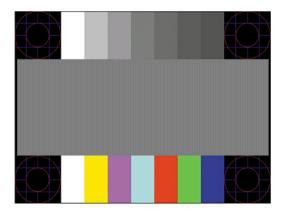
You can manually optimize the screen performance for the VGA (analog) input at any time from the Auto Adjustment menu in the OSD. You can download the auto-adjustment pattern software utility from <a href="http://www.hp.com/support">http://www.hp.com/support</a>.

Do not use this procedure if the monitor is using an input other than VGA. If the monitor is using a VGA (analog) input, this procedure can correct the following image quality conditions:

- Fuzzy or unclear focus
- Ghosting, streaking, or shadowing effects
- Faint vertical bars
- Thin, horizontal scrolling lines
- An off-center picture

To use the auto-adjustment feature:

- 1. Allow the monitor to warm up for 20 minutes before adjusting.
- Press the Menu button to open the OSD, select Image Control, and then select Auto Adjustment. If the result is not satisfactory, continue with the procedure.
- Open the auto-adjustment utility. (You can download this utility from <a href="http://www.hp.com/support">http://www.hp.com/support</a>.) The setup test pattern is displayed.



4. Press the Esc key or any other key on the keyboard to exit the test pattern.

## **Optimizing image performance (analog input)**

Two controls in the on-screen display can be adjusted to improve image performance: Clock and Phase (available in the OSD menu). Use these controls only when the auto-adjustment function does not provide a satisfactory image.

NOTE: The Clock and Phase controls are adjustable only when using an analog (VGA) input. These controls are not adjustable for digital inputs.

The Clock must first be set correctly since the Phase settings are dependent on the main Clock setting.

- **Clock:** Increases/decreases the value to minimize any vertical bars or stripes visible on the screen background.
- **Phase:** Increases/decreases the value to minimize video flickering or blurring.

NOTE: When using the controls, you will obtain the best results by using the auto-adjustment pattern software utility. You can download this utility from <a href="http://www.hp.com/support">http://www.hp.com/support</a>.

When adjusting the Clock and Phase values, if the monitor images become distorted, continue adjusting the values until the distortion disappears. To restore the factory settings, press the Menu button to open the OSD, and then select **Management**, select **Factory Reset**, and then select **Yes**.

To eliminate vertical bars (Clock):

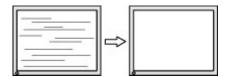
- 1. Press the Menu button to open the OSD, select Image Control, and then select Clock and Phase.
- 2. Select **Clock**, and then use the function buttons on the monitor that display up and down arrow icons to eliminate vertical bars. Press the buttons slowly so that you do not miss the optimum adjustment point.



3. After adjusting the Clock, if blurring, flickering, or bars appear on the screen, proceed to adjust the Phase.

To remove flickering or blurring (Phase):

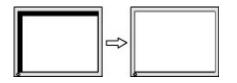
- 1. Press the Menu button to open the OSD, select Image Control, and then select Clock and Phase.
- Select Phase, and then use the function buttons on the monitor that display up and down arrow icons to eliminate flickering or blurring. Flickering or blurring may not be eliminated, depending on the computer or graphics controller card installed.



To correct screen position (Horizontal Position or Vertical Position):

**1.** Press the Menu button to open the OSD, select **Image Control**, and then select **Image Position**.

2. Press the function buttons on the monitor that display up and down arrow icons to properly adjust the position of the image in the display area of the monitor. The **Horizontal Position** shifts the image left or right; the **Vertical Position** shifts the image up and down.



#### **Contacting support**

To resolve a hardware or software problem, go to <u>http://www.hp.com/support</u>. Use this site to get more information about your product, including links to discussion forums and instructions on troubleshooting. You can also find information on how to contact HP and open a support case.

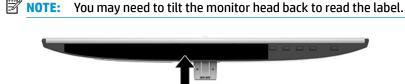
#### **Preparing to call technical support**

If you cannot solve a problem using the troubleshooting tips in this section, you may need to call technical support. Have the following information available when you call:

- Monitor model number
- Monitor serial number
- Purchase date on invoice
- Conditions under which the problem occurred
- Error messages received
- Hardware configuration
- Name and version of the hardware and software you are using

#### Locating the serial number and product number

The serial number and product number are located on a label on the bottom of the monitor head. You may need these numbers when contacting HP about the monitor model.



## 4 Maintaining the monitor

#### **Maintenance guidelines**

To enhance the performance and extend the life of the monitor:

- Do not open the monitor cabinet or attempt to service this product yourself. Adjust only those controls that are covered in the operating instructions. If the monitor is not operating properly or has been dropped or damaged, contact an authorized HP dealer, reseller, or service provider.
- Use only a power source and connection appropriate for this monitor, as indicated on the label/back plate of the monitor.
- Be sure the total ampere rating of the products connected to the AC outlet does not exceed the current rating of the AC outlet, and the total ampere rating of the products connected to the cord does not exceed the rating of the cord. Look on the power label to determine the ampere rating (AMPS or A) for each device.
- Install the monitor near an outlet that you can easily reach. Disconnect the monitor by grasping the plug firmly and pulling it from the outlet. Never disconnect the monitor by pulling the cord.
- Turn the monitor off when not in use. You can substantially increase the life expectancy of the monitor by using a screen saver program and turning off the monitor when not in use.

**NOTE:** A burned-in image on the monitor is not covered under the HP warranty.

- Slots and openings in the cabinet are provided for ventilation. These openings must not be blocked or covered. Never push objects of any kind into cabinet slots or other openings.
- Do not drop the monitor or place it on an unstable surface.
- Do not allow anything to rest on the power cord. Do not walk on the cord.
- Keep the monitor in a well-ventilated area, away from excessive light, heat, or moisture.
- When removing the monitor stand, you must position the monitor facedown on a soft area to prevent it from getting scratched, defaced, or broken.

#### **Cleaning the monitor**

- 1. Turn off the monitor and unplug the power cord from the AC outlet.
- 2. Dust the monitor by wiping the screen and the cabinet with a soft, clean antistatic cloth.
- 3. For more difficult cleaning situations, use a 50/50 mix of water and isopropyl alcohol.
- **IMPORTANT:** Spray the cleaner onto a cloth and use the damp cloth to gently wipe the screen surface. Never spray the cleaner directly on the screen surface. It may run behind the bezel and damage the electronics.

**IMPORTANT:** Do not use cleaners that contain any petroleum-based materials such as benzene, thinner, or any volatile substance to clean the monitor screen or cabinet. These chemicals may damage the monitor.

## Shipping the monitor

Keep the original packing box in a storage area. You may need it later if you move or ship the monitor.

## **A** Technical specifications

NOTE: All specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower.

For the latest specifications or additional specifications on this product, go to <a href="http://www.hp.com/go/guickspecs/">http://www.hp.com/go/guickspecs/</a> and search for your specific monitor model to find the model-specific QuickSpecs.

#### 54.61 cm/21.5-inch model

Specification	Measurement		
Display	54.61 cm wide screen	21.5-inch wide screer	
Туре	IPS LCD		
Viewable image size	54.61 cm diagonal	21.5-inch diagonal	
Maximum weight (unpacked)	2.33 kg	5.14 lb	
Dimensions (include base)			
Height	38.07 cm	14.99 inches	
Depth	18.66 cm	7.35 inches	
Width	48.99 cm	19.29 inches	
Tilt adjustment range	-5° to 25°		
Maximum graphic resolution	1920 × 1080 @ 75 Hz		
Optimum graphic resolution	1920 × 1080 @ 60 Hz	1920 × 1080 @ 60 Hz	
Environmental requirements			
Operating temperature	5°C to 35°C	41°F to 95°F	
itorage temperature	-20°C to 60°C	<b>-20°C to 60°C</b> -4°F to 140°F	
Storage humidity	5% to 95% (non-condensing)	5% to 95% (non-condensing)	
Operating humidity	20% to 80% (non-condensing)	20% to 80% (non-condensing)	
Altitude			
Operating	0 m to 5,000 m	0 ft to 16,400 ft	
Storage	0 m to 12,192 m	0 ft to 40,000 ft	
Power source	100–240 VAC 50/60 Hz	100–240 VAC 50/60 Hz	
Measured power consumption			
Full power	21 W	21 W	
Typical settings	19 W	19 W	
Sleep	0.3 W	0.3 W	
Off	0.3 W		
Input terminal	One HDMI port, one VGA port		

## 58.42 cm/23-inch model

Specification	Measurement		
Display	58.42 cm wide screen	23-inch wide screen	
Туре	IPS LCD		
Viewable image size	58.42 cm diagonal	23-inch diagonal	
Maximum weight (unpacked)	2.58 kg	5.69 lb	
Dimensions (include base)			
Height	39.85 cm	15.69 inches	
Depth	18.66 cm	7.35 inches	
Width	52.14 cm	20.90 inches	
Tilt adjustment range	-5° to 25°		
Maximum graphic resolution	1920 × 1080 @ 75 Hz		
Optimum graphic resolution	1920 × 1080 @ 60 Hz	1920 × 1080 @ 60 Hz	
Environmental requirements			
Operating temperature	5°C to 35°C	41°F to 95°F	
Storage temperature	-20°C to 60°C	-20°C to 60°C -4°F to 140°F	
Storage humidity	5% to 95% (non-condensing)		
Operating humidity	20% to 80% (non-condensing)	20% to 80% (non-condensing)	
Altitude			
Operating	0 m to 5,000 m	0 ft to 16,400 ft	
Storage	0 m to 12,192 m	0 ft to 40,000 ft	
Power source	100–240 VAC 50/60 Hz	100–240 VAC 50/60 Hz	
Measured power consumption			
Full power	22 W		
Typical settings	20 W	20 W	
Sleep	0.3 W		
Off	0.3 W		
Input terminal	One HDMI port, one VGA port		

## 60.47 cm/23.8-inch model

Specification	Measurement		
Display	60.47 cm wide screen	23.8-inch wide screen	
Туре	IPS LCD		
Viewable image size	60.47 cm diagonal	23.8-inch diagonal	
Maximum weight (unpacked)	2.84 kg	6.26 lb	
Dimensions (include base)			
Height	40.88 cm	16.09 inches	
Depth	18.66 cm	7.35 inches	
Width	53.98 cm	21.25 inches	
Tilt adjustment range	-5° to 25°		
Maximum graphic resolution	1920 × 1080 @ 75 Hz	1920 × 1080 @ 75 Hz	
Optimum graphic resolution	1920 × 1080 @ 60 Hz	1920 × 1080 @ 60 Hz	
Environmental requirements			
Operating temperature	5°C to 35°C	41°F to 95°F	
Storage temperature	-20°C to 60°C	<b>-20°C to 60°C</b> -4°F to 140°F	
Storage humidity	5% to 95% (non-condensing)		
Operating humidity	20% to 80% (non-condensing)		
Altitude			
Operating	0 m to 5,000 m	0 ft to 16,400 ft	
Storage	0 m to 12,192 m	0 ft to 40,000 ft	
Power source	100–240 VAC 50/60 Hz	100–240 VAC 50/60 Hz	
Measured power consumption			
Full power	22 W		
Typical settings	20 W	20 W	
Sleep	0.3 W	0.3 W	
Off	0.3 W		
Input terminal	One HDMI port, one VGA port		

## 63.33 cm/25-inch model

Specification	Measurement			
Display	63.33 cm wide screen	25-inch wide screen		
Туре	IPS LCD			
Viewable image size	63.33 cm diagonal	25-inch diagonal		
Maximum weight (unpacked)	3.31 kg	7.29 lb		
Dimensions (include base)				
Height	42.52 cm	16.73 inches		
Depth	20.44 cm	8.04 inches		
Width	57.60 cm	22.67 inches		
Tilt adjustment range	-5° to 25°			
Maximum graphic resolution	1920 × 1080 @ 75 Hz			
Optimum graphic resolution	1920 × 1080 @ 60 Hz	1920 × 1080 @ 60 Hz		
Environmental requirements				
Operating temperature	5°C to 35°C	41°F to 95°F		
Storage temperature	-20°C to 60°C	-4°F to 140°F		
Storage humidity	5% to 95% (non-condensing)	5% to 95% (non-condensing)		
Operating humidity	20% to 80% (non-condensing)	20% to 80% (non-condensing)		
Altitude				
Operating	0 m to 5,000 m	0 ft to 16,400 ft		
Storage	0 m to 12,192 m	0 ft to 40,000 ft		
Power source	100–240 VAC 50/60 Hz			
Measured power consumption				
Full power	21 W	21 W		
Typical settings	19 W	19 W		
Sleep	0.3 W	0.3 W		
Off	0.3 W			
Input terminal	Two HDMI ports, one VGA port			

## 68.6 cm/27-inch model

Specification	Measurement			
Display	68.6 cm wide screen	27-inch wide screen		
Туре	IPS LCD			
Viewable image size	68.6 cm diagonal	27-inch diagonal		
Maximum weight (unpacked)	3.68 kg	8.11 lb		
Dimensions (include base)				
Height	44.93 cm	17.68 inches		
Depth	20.44 cm	8.04 inches		
Width	61.18 cm	24.08 inches		
Tilt adjustment range	-5° to 25°			
Maximum graphic resolution	1920 × 1080 @ 75 Hz			
Optimum graphic resolution	1920 × 1080 @ 60 Hz			
Environmental requirements				
Operating temperature	5°C to 35°C	41°F to 95°F		
Storage temperature	-20°C to 60°C	-4°F to 140°F		
Storage humidity	5% to 95% (non-condensing)			
Operating humidity	20% to 80% (non-condensing)	20% to 80% (non-condensing)		
Altitude				
Operating	0 m to 5,000 m	0 ft to 16,400 ft		
Storage	0 m to 12,192 m	0 ft to 40,000 ft		
Power source	100–240 VAC 50/60 Hz			
Measured power consumption				
Full power	27 W	27 W		
Typical settings	25 W	25 W		
Sleep	0.3 W	0.3 W		
Off	0.3 W			
Input terminal	Two HDMI ports, one VGA port			

#### **Power adapters**

Manufacturer	Model number	Power supply rating	Monitor models
Delta	ADP-30BD D	19 V / 30 W	54.61 cm/21.5-inch, 58.42 cm/23-inch,
	ADP-40LD D	19 V / 40 W	60.47 cm/23.8-inch
			63.33 cm/25-inch, 68.6 cm/27-inch
Honor	ADS-40NP-19-1 19030E	19 V / 30 W	54.61 cm/21.5-inch, 58.42 cm/23-inch,
нопог	ADS-40NP-19-1 19040E	19 V / 40 W	60.47 cm/23.8-inch
			63.33 cm/25-inch, 68.6 cm/27-inch

### **Preset display resolutions**

The display resolutions listed below are the most commonly used modes and are set as factory defaults. The monitor automatically recognizes these preset modes and they will appear properly sized and centered on the screen.

Preset display resolutions				
(1)	640 × 480 @ 60 Hz	(11)	1280 × 1024 @ 60 Hz	
(2)	640 × 480 @ 75 Hz	(12)	1280 × 1024 @ 75 Hz	
(3)	720 × 400 @ 70 Hz	(13)	1366 × 768 @ 60 Hz	
(4)	800 × 600 @ 60 Hz	(14)	1440 × 900 @ 60 Hz	
(5)	800 × 600 @ 75 Hz	(15)	1440 × 900 @ 75 Hz	
(6)	1024 × 768 @ 60 Hz	(16)	1600 × 900 @ 60 Hz	
(7)	1024 × 768 @ 75 Hz	(17)	1680 × 1050 @ 60 Hz	
(8)	1280 × 720 @ 60 Hz	(18)	1920 × 1080 @ 60 Hz	
(9)	1280 × 800 @ 60 Hz	(19)	1920 × 1080 @ 75 Hz	
(10)	1280 × 800 @ 75 Hz			

#### **Entering user modes**

Under the following conditions, the video controller signal may occasionally call for a mode that is not preset:

- You are not using a standard graphics adapter.
- You are not using a preset mode.

If this occurs, you may need to readjust the parameters of the monitor screen by using the on-screen display. Your changes can be made to any or all of these modes and saved in memory. The monitor automatically stores the new setting and then recognizes the new mode just as it does a preset mode. In addition to the factory preset modes, there are at least 10 user modes that can be entered and stored.

#### **Energy saver feature**

The monitors support a reduced power state. The reduced power state will be initiated if the monitor detects the absence of either the horizontal sync signal or the vertical sync signal. Upon detecting the absence of these signals, the monitor screen is blanked, the backlight is turned off, and the power light turns amber. When the monitor is in the reduced power state, the monitor will utilize 0.3 watts of power. There is a brief warm-up period before the monitor will return to its normal operating mode.

Refer to the computer manual for instructions on setting energy saver features (sometimes called power management features).

NOTE: The energy saver feature only works when the monitor is connected to a computer that has energy saver features.

By selecting the settings in the monitor's Energy Saver utility, you can also program the monitor to initiate the reduced power state at a predetermined time. When the monitor's Energy Saver utility causes the monitor to initiate the reduced power state, the power light turns amber.

## **B** Accessibility

HP designs, produces, and markets products and services that can be used by everyone, including people with disabilities, either on a stand-alone basis or with appropriate assistive devices.

### Supported assistive technologies

HP products support a wide variety of operating system assistive technologies and can be configured to work with additional assistive technologies. Use the Search feature on your source device that is connected to the monitor to locate more information about assistive features.

**NOTE:** For additional information about a particular assistive technology product, contact customer support for that product.

#### **Contacting support**

We are constantly refining the accessibility of our products and services and welcome feedback from users. If you have an issue with a product or would like to tell us about accessibility features that have helped you, please contact us at (888) 259-5707, Monday through Friday, 6 a.m. to 9 p.m. Mountain Time. If you are deaf or hard-of-hearing and use TRS/VRS/WebCapTel, contact us if you require technical support or have accessibility questions by calling (877) 656-7058, Monday through Friday, 6 a.m. to 9 p.m. Mountain Time.